REMARKS

This Amendment is in response to the Office Action of March 26, 2004 ("Office Action"). It is respectfully submitted that the application is in condition for allowance. Claims 1, 3-26, 28 and 29 are pending in the present application; claim 27 having been canceled by virtue of the present Amendment. Claims 1 and 3-21 have been allowed, for which Applicant thanks Examiner; claims 22-28 were rejected; and claim 29 was objected to as being dependent upon a rejected base claim, but was indicated as being allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims. Claims 22 and 28 have been amended by virtue of the present Amendment. No new matter has been added by virtue of the present amendment. Reconsideration and allowance of the claims in view of the foregoing amendments and ensuing remarks are respectfully requested.

Claim 22 has been amended to more particularly point out that which Applicant considers to be his invention. Claim 22 describes *"[a] diffuser through which gas flows."* As amended, this claim further describes the diffuser as including *"at least one aerodynamic fin . . . being oriented substantially parallel to the direction of gas flow"* and *"a central axis member, said central axis member being affixed to said at least one aerodynamic fin."* Support for this amendment may be found in canceled claim 27 as originally filed, and in the specification; for example, at page 18, lines 3-18 and in Fig. 6b, element No. 608.

Claim 28 has been amended solely to correct the claim dependency therein. As amended, claim 28 now depends from claim 22, rather than from canceled claim 27.

In the Office Action, Examiner noted that the restriction requirement set forth in the Office Action dated December 29, 2003 has been withdrawn, for which Applicant thanks Examiner.

In the Office Action, Examiner rejected claims 22, 23, 27 and 28 under 35 U.S.C. § 102(b) as being anticipated by Beale *et al.* (U.S. Patent No. 4,693,339; hereinafter "Beale"). In particular, Examiner found that *"[Beale] teaches a diffuser through which gas flows comprising an air passage about its circumference and at least three aerodynamic fins (74) . . . said fins being disposed in such a manner so as to aid in gas flow through the air passage and wherein the fins are substantially*

parallel to the direction of gas flow" (emphasis added). With respect to claim 27, which has been canceled by virtue of the present amendment, this rejection is rendered moot. With respect to the remaining claims, this rejection is respectfully traversed.

A claim is anticipated *"only if each and every element as set forth in the claim is found, either expressly or inherently described, in a single prior art reference."* *See* MPEP § 2131 (quoting Verdegaal Bros. v. Union Oil Co. of California, 814 F.2d 628, 631 (Fed. Cir. 1987)).

Beale describes *"an improved muffler or silencer for gas inducting machinery, such as air compressors and the like"* (*See* Col. 1, lines 46-47 of Beale). The muffler may include a *"swirling device"* to swirl the flow of air through a nozzle to which it is attached (*See* Col. 4, lines 30-31 and Figs. 8 & 10 of Beale). In one embodiment, the swirling device includes a series of three fins that are oriented at an angle of from 10° to 75° from the direction of air flow, and are curved so as to rotate or swirl the air as it flows through the device (*See* Col. 4, line 47 and Figs. 8 & 10 of Beale). According to Beale, this swirling effect imparts certain beneficial features in the context of silencing the operation of a device that uses rapid air flow. As further described in Beale:

> The swirler *retards the separation of the flow* in the diffuser sectoin [sic] of the nozzle which reduces the pressure drop across the nozzle and in turn results in greater mass flow . . . Preswirler 60, as illustrated, comprises a core 66 incuding [sic] a cylinder 68 having outwardly projecting cones 70, 72 at each end. Three fins 74 are attached to core 66 and are configured as shown in isolation in FIG. 10 and are positioned one hundred and twenty degrees apart from each other, as best shown in FIG. 9. *The preswirler may be characterized by the turning angle of the fin 74, that is, the angle through which the fin turns the gas flow. For practical purposes, this is the same as the angle between a line tangent to the curve of the fin 74 at its intersection with core 66 at the exit and the axis of the core cylinder 68. This fin angle may be anywhere from 10 to 75 degrees*; in a test of three fin angles of 30°, 45° and 60°, 45° proved to be optimal. (*See* Col. 4, lines 24-50 of Beale; emphasis added)

Applicant's independent claim 22, from which claims 23 and 28 depend, describes *"[a] diffuser through which gas flows"* that further includes *"at least one aerodynamic fin . . . being oriented substantially parallel to the direction of gas flow"* (emphasis added). Although Examiner indicated that the fins of Beale are *"substantially parallel to the direction of gas flow,"* Applicant respectfully submits that Examiner has mischaracterized this feature of Beale. In fact, Beale quite specifically teaches that the fins included therein are *not* parallel to the direction of gas flow in any embodiment. Therefore, Beale does not describe Applicant's diffuser, as claimed.

In light of the foregoing amendment and remarks, Applicant respectfully submits that Beale does not anticipate claims 22, 23 and 28, and therefore respectfully requests withdrawal of this rejection under 35 U.S.C. § 102(b).

In the Office Action, Examiner rejected claims 22, 23, 25 and 26 under 35 U.S.C. § 102(b) as being anticipated by Church (U.S. Patent No. 4,572,942). In particular, Examiner noted that *"Church teaches a diffuser including an O-ring (16), through which gas flows comprising an air passage about its circumference and at least three aerodynamic fins (26) . . . said fins being disposed in such a manner so as to aid in gas flow through the air passage and wherein the fins are substantially parallel to the direction of gas flow."* This rejection is respectfully traversed.

Church describes a device that may be used in *"a gas-metal-arc welding process"* (*See* Col. 1, lines 15-16 of Church). In one embodiment, the Church device includes a spacer with a series of fins that gas flows past, prior to reaching a series of diffuser holes that force this gas to travel at acute angles relative to the axis of the device (*See* Col. 3, lines 62-68 of Church). The spacer has an *"enlarged central hole"* through which another component of the device is configured (*See* Col. 3, lines 34-35 and Fig. 3, element No. 27 of Church).

Applicant's independent claim 22, from which claims 23, 25 and 26 depend, describes *"[a] diffuser through which gas flows"* that further includes *"a central axis member, said central axis member being affixed to said at least one aerodynamic fin"* (emphasis added). Examiner aptly concluded in the Office Action that this feature of Applicant's invention was not anticipated by Church, as Church does not teach a *central axis member*; rather, Church describes an *enlarged central hole*. As amended, this element is required by Applicant's independent claim 22. Therefore, Church does not describe Applicant's diffuser, as claimed.

In light of the foregoing amendment and remarks, Applicant respectfully submits that Church does not anticipate claims 22, 23, 25 and 26, and therefore respectfully requests withdrawal of this rejection under 35 U.S.C. § 102(b).

In the Office Action, Examiner rejected claim 24 under 35 U.S.C. § 103(a) as being rendered obvious by Church or Beale. In particular, Examiner noted that *"[b]oth Church and [Beale] teach all of the limitations of the claims except for explicitly reciting that the first end of the fins be a sharp*

edge." Examiner further indicated that *"it would have been an obvious matter of design choice to potentially sharpen the edges of the fins, since applicant has not disclosed that sharpening the edges of the first end of the fins solves any stated problem or is for any particular purpose and it appears that the invention would perform equally well with the edges as taught by Church."* Furthermore, Examiner stated that *"a change in the shape of the prior art device is a design consideration within the skill of the art in light of the arguments above"* (internal citations omitted). This rejection is respectfully traversed.

A *prima facie* showing of obviousness requires, *inter alia*, that the prior art reference(s) *"must teach or suggest all the claim limitations"* (*See* MPEP § 2142; emphasis added). Moreover, the configuration of a claimed apparatus is an obvious matter of choice to one of ordinary skill in the art, unless the particular configuration of a claimed device is significant. *See* In re Dailey, 357 F.2d 669 (CCPA 1966).

As described above, Beale does not teach, disclose or suggest each element of Applicant's invention, as claimed, for at least the reason that the fins described therein are not *"substantially parallel to the direction of gas flow,"* as is required by Applicant's independent claim 22, from which claim 24 depends. Furthermore, as also described above, Church does not teach, disclose or suggest each element of Applicant's invention, as claimed, for at least the reason that Church includes an enlarged central hole and not a central axis member, as is required by Applicant's independent claim 22, from which claim 24 depends. Therefore, neither Beale nor Church can render obvious Applicant's invention, as claimed.

Furthermore, Examiner indicated that *"applicant has not disclosed that sharpening the edges of the first end of the fins solves any stated problem or is for any particular purpose and it appears that the invention would perform equally well with the edges as taught by Church."* Applicant strongly disagrees. Applicant respectfully directs Examiner's attention to the specification, which provides the following:

> The aerodynamic fins 608 aid in the creation and maintenance of substantially laminar gas flow through the diffuser 600, as opposed to potentially turbulent flow, which may result from the use of channels in the diffuser. Where channels are employed, a surface resides in the area of the unobstructed, doughnut-shaped air passage, and holes (or, channels) are bored therethrough. *The remaining area of the surface is aerodynamically significant, as it obstructs the axial flow of gas, creating turbulence and, correspondingly, wasting valuable energy in the system*. *Wasted*

energy may equate to a slower injection; comparatively shallow fluid penetration into the patient; and moderate pain upon administration of an injection. Laminar gas flow effects a more efficient use of the pressurized gas in the engine and obviates other potential shortcomings associated with the use of channels. Thus, the unobstructed air passage 601 with accompanying aerodynamic fins 608 is the most preferred embodiment of the diffuser 600 of the present invention, and may function to maintain the optimal fluid delivery profile illustratively indicated in Fig. 16. (*See* page 18, lines 6-18 of the specification; emphasis added)

Therefore, Applicant respectfully submits that the fins with sharpened edges described in the present invention would, in fact, perform better than the fins of Church in supporting non-turbulent air flow through the diffuser. Applicant further respectfully submits that the sharpening the edges of the fins helps to solve the stated problem of turbulent air flow in the diffuser of the present invention. The use of sharpened edges for the fins is thus not a mere design consideration; rather, it is a significant feature related to the function of the present invention that is not rendered obvious by either Beale or Church.

In light of the foregoing amendment and remarks, Applicant respectfully submits that neither Church nor Beale render claim 24 obvious, and therefore respectfully requests withdrawal of this rejection under 35 U.S.C. § 103(a).

Applicant submitted a set of formal drawings in his response dated October 14, 2003 to replace the set of informal drawings filed concurrently with the patent application. The formal drawings were not indicated as having been accepted by Examiner in the Office Action dated December 29, 2003 or in the Office Action to which the present Amendment is responsive (dated March 26, 2004). Applicant thus respectfully requests that Examiner kindly acknowledge safe receipt and entry of the formal drawings in his next communication.

Applicant also respectfully draws Examiner's attention to the Information Disclosure Statement and form PTO-1449 being submitted concurrently herewith along with the corresponding fee. Applicant requests that Examiner kindly review the references enumerated therein and return an initialed copy of the form PTO-1449 along with his next communication. Copies of the references cited in the form PTO-1449 are provided herewith.

Applicant believes that the foregoing Amendment places the application in condition for allowance, and a favorable action is respectfully requested. If for any reason Examiner finds the application other than in condition for allowance, Examiner is requested to call either of the undersigned attorneys at the Los Angeles telephone number (213) 488-7100 to discuss the steps necessary for placing the application in condition for allowance should Examiner believe that such a telephone conference would advance prosecution of the application.

Respectfully submitted,
PILLSBURY WINTHROP LLP

Date: May 18, 2004

By: _____
Seth D. Levy
Registration No. 44,869
Attorney for Applicant

Date: May 18, 2004

By: _____
Roger R. Wise
Registration No. 31,204
Attorney for Applicant

725 South Figueroa Street, Suite 2800
Los Angeles, CA 90017-5406
Telephone: (213) 488-7100
Facsimile: (213) 629-1033

Enclosures: Information Disclosure Statement and form PTO-1449